REMARKS/ARGUMENTS

The Office Action dated October July 6, 2005 has been carefully considered. Claims 1-7, 9-22, 24-26 and 28-30 are pending in the present application with claims 1, 18 and 24 in independent form. Claims 1, 24 and 29 have been amended to clarify the features of the present application.

Claims 1-7, 9-13, 16 and 28 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 4,629,481 to Echols in view of U.S. Patent No. 3,173,771 to Barrett et al. Reconsideration of the rejection is respectfully requested.

Claim 1 of the present application relates to a separating cyclone for at least partially separating a mixture of fluids of different density into a light fraction with a relatively low density and a heavy fraction with a relatively high density including an outer casing which defines a flow space through which the mixture is to flow; an inlet connected distally to the outer casing for admitting the mixture for separating into the flow space, a flow body disposed in the flow space wherein the mixture can be guided in a flow direction through the flow space and between the flow body and the outer casing and wherein the flow body has a distal part of decreasing diameter in the flow direction; a rotator device in the flow space for setting into rotation the mixture for separating; a first outlet connected proximally to the outer casing for discharging the heavy fraction from the flow space; a second outlet disposed in the flow space for discharging the light fraction from the flow space, and at least one bypass channel at the distal part of the flow body, each bypass channel being shaped and positioned for guiding a part of the mixture flowing along the flow body in the flow direction.

Echols, as understood by Applicant, relates to a modular separating unit for separating a liquid from a gas-liquid mixture. More specifically, Echols discloses a nuclear reactor steam generator 8 with a separator assemble 18 including a cluster of modular centrifugal moisture separators 34. Each separator 34 includes an annular riser tuber 36 with an inlet end 36 and an outlet end 36b for containing a steam-water mixture. A hub 38 has a lower and upper end 38a, 38b, a vertical axis Y and is coaxial with the riser tube 36. Four blades 40 are mounted between the inner wall of the riser tube 36 and the hub 38 for imparting helical flow to the steam-water mixture. An orifice ring 42 adjacent the outlet end of the water riser tube 36 and coaxial

therewith disperses water exiting outlet end 36b of the riser tube 36. The steam-water mixture enters the riser tubes 36. The velocity of the mixture increases as it passes through the annular opening between the riser tube and the hub. The blades direct the mixture to provide a helical flow. The centrifugal force of the helical motion of the mixture forces the heavier water to be pushed toward riser 36 and forms a film on the riser which then exits through the holes 46.

Barrett et al., as understood by Applicant, relates to a reactor device in which one or more gases are brought into contact with a liquid, and thereafter, the liquid and any gasses not dissolved in the liquid are separated or in which solid particles are separated from a gas by first bringing the gas in contact with the liquid so that the solid particles are commingled with the liquid and then separating the solid laden liquid particles or wetted solids from the gas. The device includes an open-ended cylindrical shell 11, a cylindrical closed inner core 12 and a cylindrical liquid collecting section 13. Barrett discloses that wet air passes into the zone of the inner core 12, more particularly into the annular space between the inner core and the shell 11. Rotating vanes 46 may be positioned on the inner core to impart a tangential velocity to the wet air.

The Examiner concedes that Echols fails to disclose at least one bypass channel at the distal part of the flow body, each bypass channel being shaped and positioned for guiding a part of the mixture flowing along the flow body in the flow direction. The Examiner, however, contends that Barrett et al. discloses this feature and that it would have been obvious to one of ordinary skill in the art to provide at least one bypass channel to Echols so that the tangential component of the velocity of the liquid between the inner core and the bypass channel and the bypass channel and the wall is substantially the same as the tangential component of the velocity at points intermediate the inner core and the outer casing while making reference to Col. 4, lines 36-52 and Col. 12, lines 5-38 of Barrett et al. Applicant respectfully disagrees.

As noted above, Echols relates to a separating unit for separating liquid from a gas-liquid mixture and Barrett et al. similarly relates to separating gas from a liquid or solids from a gas after combining the gas with a liquid. Echols and Barrett et al., however, fail to show or suggest a separating cyclone for at least partially separating a mixture of fluids of different density into a

light fraction with a relatively low density and a heavy fraction with a relatively high density as substantially recited in claim 1 of the present application, for example.

Further, Echols and Barrett et al. fail to show or suggest a separating cyclone including "at least one bypass channel at the distal part of the flow body, each bypass channel being shaped and positioned for guiding a part of the mixture flowing along the flow body in the flow direction" as recited in claim 1 of the present application.

As noted above, the Examiner concedes that Echols fails to disclose a bypass channel. The Examiner incorrectly contends that element 11a of figures 10 and 11 of Barrett et al. discloses this feature.

Element 11a of Barrett et al. relates to a rotatable shell section that is attached to the rotatable portion 32 of the inner core 12 which is positioned in an intermediate section of the inner core 12. The rotatable shell section 11a is connected to the rotatable portion 32 of the inner core 12 via spokes 150 such that the shell section will rotate with the same angular speed as the rotating inner core section. See Barrett et al. Column 8, lines 8-16 and Column 12, lines 1-50.

The rotating shell section 11a of Barrett et al., however, is not "at the distal part of the flow body" as required by claim 1 of the present application. The rotatable portion 32 of the inner core 12 in Barrett et al. is positioned in an intermediate section of the inner core, thus, the rotatable shell section 11a is not at the distal part of the flow body.

In addition, the rotatable shell section 11a is not "shaped and positioned for guiding a part of the mixture flowing along the flow body in the flow direction" as recited in claim 1 of the present application. The rotating shell section is merely coaxial with the inner core section 32. Barret et al. fails to show or suggest that it is shaped and positioned for guiding a part of the mixture flowing along the flow body in the flow direction.

Accordingly, it is respectfully submitted that claim 1, and the claims depending therefrom, are patentable over the cited art for at least the reasons mentioned above.

Claims 18-22 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 4,629,481 to Echols in view of U.S. Patent No. 3,173,771 to Barrett et al. Reconsideration of the rejection is respectfully requested.

Claim 18 relates to a flow body for placement into a separating cyclone for at least partially separating a mixture of fluids of different density into a light fraction with a relatively low density and a heavy fraction with a relatively high density, wherein the flow body includes a proximal part on which a rotating device is arranged for setting into rotation the mixture flowing along the body, and a distal part of decreasing diameter in a flow direction of the mixture, with at least one bypass channel at the distal part via which a part of the fluid flowing along the flow body can be guided.

The Examiner contends that Echols in combination with Barrett et al. disclose all of the features of claim 18. Applicant respectfully disagrees.

As noted above, with regard to claim 1, Echols and Barrett et al. fail to show or suggest a separating cyclone including "at least one bypass channel at the distal part of the flow body, each bypass channel being shaped and positioned for guiding a part of the mixture flowing along the flow body in the flow direction." Similarly, Echols and Barrett et al. fail to show or suggest a flow body including "at least one bypass channel at the distal part via which a part of the fluid flowing along the flow body can be guided," as recited in claim 18 of the present application.

Accordingly, it is respectfully submitted that claim 18, and the claims depending therefrom are patentable over the cited art for reasons at least similar to those described above with respect to claim 1.

Claims 24-26 and 29 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 4,629,481 to Echols in view of U.S. Patent No. 3,173,771 to Barrett et al. Reconsideration of the rejection is respectfully requested.

Claim 24 relates to a method for at least partially separating a mixture of fluids of different density into a light fraction with a relatively low density and a heavy fraction with a relatively high density, including feeding the mixture for separating into a flow space defined by and between an outer casing and a flow body disposed in the casing; setting the mixture into rotation in the flow space; guiding the mixture, once set into rotation, along the flow body disposed in the flow space; discharging the heavy fraction via a first outlet connected proximally to the outer casing; discharging the light fraction from the flow space via a second outlet

disposed in the flow space, and guiding a part of the mixture flowing along the flow body through at least one bypass channel arranged in the flow body at a distal part of the flow body.

As noted above, Echols and Barrett et al. fail to show or suggest a separating cyclone including "at least one bypass channel at the distal part of the flow body, each bypass channel being shaped and positioned for guiding a part of the mixture flowing along the flow body in the flow direction." Similarly, Echols and Barrett et al. fail to show or suggest a method for at least partially separating a mixture of fluids including "guiding a part of the mixture flowing along the flow body through at least one bypass channel arranged in the flow body at a distal part of the flow body" as recited in claim 24 of the present application.

Accordingly, it is respectfully submitted that claim 24, and the claims depending therefrom, are patentable over the cited art for at least similar to those described above with respect to claim 1.

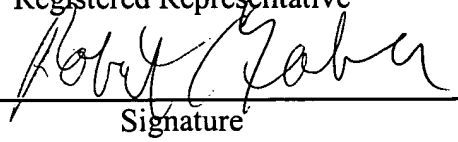
Applicant appreciates the Examiner's indication that claims 14, 15, 17 and 30 have been objected to as dependent upon a rejected base claim, but that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, in light of the above remarks, it is believed that claims 14, 15, 17 and 30 are allowable in their present form.

In light of the above, it is respectfully submitted that claims 1-7, 9-22, 24-26 and 28-30 are patentable over the cited art and are in condition for allowance.

Favorable reconsideration of the present application is respectfully requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 19, 2004:

Robert C. Faber
Name of applicant, assignee or Registered Representative



Signature

December 6, 2005
Date of Signature

RCF:KJB

Respectfully submitted,

Robert C. Faber
Registration No.: 24,322
OSTROLENK, FABER, GERB & SOFFEN, LLP
1180 Avenue of the Americas
New York, New York 10036-8403
Telephone: (212) 382-0700